

*sub
A1
B1
C1*
material selected from the group consisting of substantially pure aluminum and aluminum alloys including at least 90 wt% elemental aluminum; and
forming a boron carbide layer upon said surface.

2. The method of Claim 1, wherein said forming step comprises thermal spraying to form said boron carbide layer upon said surface.

3. The method of Claim 1, wherein said forming step comprises chemical vapor deposition.

A2
4. [6.] (Amended) The method of Claim 1, wherein said forming step comprises surface conversion.

*sub
A1
B1
C1*
5. [7.] (Amended) The method of Claim 1, wherein no more than a native oxide of aluminum intervenes between said substrate and said boron carbide layer.

6. [8.] The method of Claim 1, further comprising anodizing said substrate to form an anodization layer and wherein said forming step deposits said boron carbide layer upon said anodization layer.

Please cancel Claim 7.

*sub
A1
B1
C1*
7. [9.] (Amended and canceled) The method of Claim 1, wherein a material of said substrate is selected from the group consisting of aluminum and aluminum alloys.

A3
8. [10.] (Amended) The method of Claim 1, wherein said boron carbide layer comprises B_4C .

9. [11.] (Amended) The method of Claim 1, wherein said boron carbide layer comprises particles of B_4C .

10. [11.] (Amended) The method of Claim 1, wherein said boron carbide layer comprises a composition between B_4C and $B_{13}C_3$.

11. [12.] (Amended) The method of Claim 1, wherein said boron carbide layer comprises between 14 to 30 wt% of carbon relative to a total weight of carbon and boron.

12. [13.] The structure of Claim 11 [12], wherein said boron carbide layer comprises between 18 to 25 wt% of carbon relative to a total weight of carbon and boron.

13. [14.] (Amended) A method of forming a boron carbide layer on an aluminum-based substrate, comprising:

anodizing a surface of an aluminum-based substrate [member] to form an anodization layer; and

then depositing a boron carbide layer upon said anodization layer.

14. [15.] (Amended) The method of Claim 13 [14], wherein said depositing step comprises thermal spraying.

15. [16.] (Amended) The method of Claim 13 [14], wherein said depositing step comprises chemical vapor deposition.

16. [17.] (Amended) The method of Claim 13 [14], further comprising the step, performed prior to said anodizing step, of roughening at least a first portion of said surface of said aluminum-based substrate [member] and wherein said anodizing step anodizes said first

roughen → anodize → deposit

portion and said depositing step deposits said boron carbide layer on said anodization layer overlying said anodized first portion.

17. [18.] (Amended) The method of Claim 16 [17], further comprising removing said anodization layer from a second portion of said substrate [member] adjacent to said first portion, said roughened first portion extending below a portion of said anodization left by said removing step.

18. [19.] (Amended) The method of Claim 16 [17], wherein a material of said substrate [member] is selected from the group consisting of aluminum and aluminum alloys.

19. [20.] (Amended) The method of Claim 16 [17], wherein said boron carbide layer comprises B_4C .

20. [21.] (Amended) The method of Claim 16 [17], wherein said boron carbide layer comprises particles of B_4C .

21. [22.] (Amended) The method of Claim 16 [17], wherein said boron carbide layer comprises a composition between B_4C and $B_{13}C_3$.

22. [23.] (Amended) The method of Claim 16 [17], wherein said boron carbide layer comprises between 14 to 30 wt% of carbon relative to a total weight of carbon and boron.

23. [24.] (Amended) The structure of Claim 22 [23], wherein said boron carbide layer comprises between 18 to 25 wt% of carbon relative to a total weight of carbon and boron.

Please cancel Claims 24-27.